Consider for a moment the impact that a power source such as photovoltaics can make on the earth's environment. It is clean and considered non-polluting. It is a renewable energy source that consumes a reasonably small amount of the earth's resources to produce electricity. It is silent. Few resources are needed to keep it running, day, after day, after day, anywhere the sun shines.

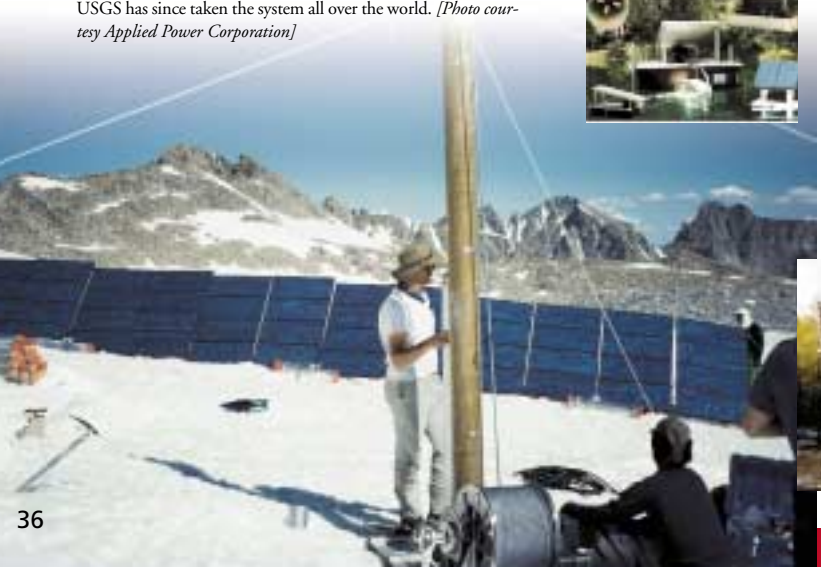
So, PV as a power source is itself a huge, positive influence on our environment. With that as an incontrovertible fact, what we feature here are ways in which PV is being used to promote environmentally sound projects—good works that use PV in a number of diverse ways.

△ Reynolds Aluminum uses a trailer-mounted PV system to monitor the air quality around a bauxite tailings "pond" covering several hundred acres near Corpus Christi, Texas. The trailer was customized by Direct Power and Water, Albuquerque, New Mexico. Samples are taken for a 24-hour period every seven days. The power system is configured for 12VDC and consists of 16 Siemens SP-75 75W modules using a battery bank of 10 Deka 8L16, 375 AH batteries. A Statpower 1,500W inverter is used to power the sampler and other related equipment. *[Photo courtesy Direct Power and Water]*

△ Live Oak Solar's portable T-REX PV system is on its way to a residential construction site in southern California. The PV unit was quiet enough to provide the necessary noise abatement for night-time building. *[Photo courtesy Live Oak Solar]*

▽ Professor Emeritus Bill Peterson, University of Illinois Agricultural Engineering Department is funded partly by the Illinois Bureau of Energy and Recycling (and partly by the National Renewable Energy Laboratory) to demonstrate PV projects from his mobile flatbed trailer. He uses a number of documents from Sandia's Photovoltaic Systems Assistance Center to educate his audience, whom Peterson reports are pleased when they see the many possibilities for using PV to save the environment. *[Photo courtesy Professor Bill Peterson]*

▽ The U.S. Geological Survey uses this portable Solarex solar system to take ice core samples from glaciers to study air quality. This photo was taken at Fremont Glacier, Wyoming, but the USGS has since taken the system all over the world. *[Photo courtesy Applied Power Corporation]*



▽ Simpler Solar, Tallahassee, Florida, provided this collage of components of their solar pond aeration system. As rain water washes over streets, roofs, farm lands, and so on, it builds up an excess of nutrients that result in excessive weed and algae growth. This accumulation consumes inordinate amounts of oxygen in ponds. Aeration systems bring new life to these bodies of water, and they are especially suited to be powered by photovoltaics. *[Photo courtesy Simpler Solar]*

◁ At the Miner Institute in Chazy, New York, an 1800W PV/propane generator hybrid system provides utility grade electricity to power a variety of instruments. This environmental research facility monitors the effect of environmental changes on atmospheric carbon releases from the temperate forest. The PV array consists of 25 Siemens modules. SunWize Technologies, a Besicorp company, provided the system, which was developed in partnership with the New York State Energy Research and Development Authority. *[Photo courtesy SunWize]*

△ Protecting the fragile environment was a strong motivation for having PV installed at his north Florida home, according to Al Ford, great-grandson of the famous automaker. Living through the aftermath of Hurricane Andrew—months of no running water or flush toilets or air conditioning—was an equally convincing reason to turn to PV. The large system includes Siemens panels, Zomeworks trackers, Trace Engineering inverters, and Trojan batteries. *[Photo courtesy Energy Conservation Services of North Florida]*

▽ A rainbow complements PV arrays designed and installed by The Solar Connection for The Nature Conservancy on Santa Cruz Island off the California coast. Photovoltaics replaced a noisy, smelly generator to provide power for up to 100 people who stay on the island at any given time, with enough power for their scientific work as well—about 35kW. The system features Siemens modules, C&D batteries, and a Trace Technologies inverter. In this fragile nature preserve, PV is the most appropriate technology. *[Photo courtesy The Solar Connection]*

▽ In a wetlands rehydration system installed by Solar Electric Power Company, Florida, a 900W assembly operates two remote water pumps in a 24V PV direct configuration. The pumps provide an average of over 10,000 gallons daily. The water is directed onto a designated wetlands replacement area. *[Photo courtesy SEPCO]*

▽ Lamar Buffalo Ranch, Wyoming, within Yellowstone National Park, uses a 5kW remote power PV system for electricity for NPS rangers, as well as instructors and students who convene there during the summer for ecology classes. *[Photo courtesy Altair Energy]*

▽ A Dankoff Solar centrifugal pump removes excess treated wastewater from a wetlands treatment system by means of spray irrigation. Second Nature Systems, Kennard, Texas, installed the solar irrigation system at the Transco Station gas pipeline sewer and industrial washdown near Sour Lake, Texas. Modules are from BP Solar. The array provides 675 watts of peak power. *[Photo courtesy Second Nature Systems]*